

## WHAT IS CLAIMED IS:

1. An active pixel sensor comprising:

a first voltage source and a second voltage source;

a reset transistor connected to the first voltage source;

5 a photoelectric element connected to the reset transistor for being charged by the first voltage source when the reset transistor is turned on; and

a source follower transistor, a readout switch transistor, and a bias transistor connected in series and supplied with power from the second voltage source, the source follower transistor having a gate connected to a connection point between the reset transistor and the photoelectric element, the bias transistor establishing a predetermined bias for the source follower transistor, so as to read out a photoelectric signal from the connecting point when the readout switch transistor is turned on;

15 wherein, the first voltage source and the second voltage source are different.

2. The active pixel sensor as claimed in claim 1, wherein the first and second voltage sources are connected to two layers of overlapped metal wires, respectively, for supplying voltages to a pixel, thereby eliminating noise interference and saving layout space

3. The active pixel sensor as claimed in claim 1, wherein the first and second voltage sources are connected to two layers of vertically arranged metal wires, respectively, for supplying voltages to a pixel, thereby avoiding noise interference causes by parasitic capacitors of the metal wires

4. The active pixel sensor as claimed in claim 1, wherein the first and said second voltage sources can be adjusted when the active pixel sensor is operating.

5 5. The active pixel sensor as claimed in claim 4, wherein the pixel sensor has an output end connected to a correlated double sampling circuit.